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### REMARKS

Claims 1, 3-5 and 12 are pending in the application. Claims 1, 3-5 and 12 stand rejected under 35 U.S.C. §112, first paragraph as failing to comply with the written description requirement. The Examiner contends that the claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the art that the Applicants had possession of the invention at the time the application was filed. The Examiner states that the claims, "while being enabling for reacting the polyisocyanates with the 'at least one compound,' there is insufficient support in the originally filed disclosure for specifically reacting 'the isocyanate groups of the polyisocyanates' with the 'at least one compound.'" Applicants respectfully disagree with the Examiner.

A description as filed is presumed to be adequate, unless or until sufficient evidence or reasoning to the contrary has been presented by the Examiner to rebut the presumption. *See e.g., In re Marzocchi*, 439 F.2d 220, 224, 169 USPQ 367, 370 (CCPA 1971); *See also* MPEP 2163.04. The Examiner has the burden of providing evidence of why a particular claim does not meet the written description requirement.

Applicants, in the Response of June 8, 2006, specifically cited original Claim 1 as providing support for "preparing a polyurethane . . . by reacting . . . the isocyanate groups of polyisocyanates with the isocyanate-reactive groups of an isocyanate-reactive component consisting of at least one compound . . . ." (*See Applicants' Response of June 8, 2006, page 5, lines 4-9.*) The Examiner has set forth no evidence to rebut the Applicants support for the amendment. Instead, the Examiner simply relies on a general statement that there is insufficient support in the original disclosure for the amendment. The Examiner has provided no evidence or reason why one of ordinary skill in the art would conclude that "preparing a polyurethane" would not necessarily involve reacting the isocyanate groups of the polyisocyanates with isocyanate-reactive groups.

PO-7978

- 2 -

The reaction to prepare a polyurethane from a polyisocyanate necessarily involves reacting the isocyanate groups, as taught by virtually every organic chemistry or polymer science text that discusses polyurethanes. See e.g., Kirk-Othmer, 24 *Encyclopedia of Chemical Terminology*, at 697 (4<sup>th</sup> Ed. 1997) ("The key to the manufacture of polyurethanes is the unique reactivity of the heterocumulene groups in diisocyanates towards nucleophilic additions."). As such, it is well understood by those of ordinary skill in the art that reference to preparing a polyurethane inherently involves reacting the isocyanate groups of the polyisocyanates with isocyanate-reactive groups.

Furthermore, Applicants submit that page 6, line 13 to page 7, line 3 of the Specification provides further support for the amendment. Specifically, lines 15-18 state that the building blocks for the polyurethane are polyisocyanates and "at least one compound which contains NCO-reactive groups." It would be nonsensical for Applicants to specify that the "at least one compound" contain NCO-reactive groups if such groups were not going to react with the NCO groups of the polyisocyanates. Once again, it would be well understood by one of ordinary skill in the art, given such disclosure, and the basic nature of the polyurethane reaction, that the NCO-reactive groups are present in order to react with the NCO groups of the polyisocyanates.

Applicants have cited several instances of support for "preparing a polyurethane . . . by reacting . . . the isocyanate groups of polyisocyanates with the isocyanate-reactive groups of an isocyanate-reactive component consisting of at least one compound . . . ." As such, Applicants respectfully request that the rejection of 1, 3-5 and 12 under 35 U.S.C. §112, first paragraph be withdrawn.

Claims 1, 3-5 and 12 stand rejected under 35 U.S.C. § 102(b) as being anticipated by WO 01/77200 to Kagerer et al., which is believed to correspond to U.S. Patent Application Publication No. 2003/0124357 ("Kagerer"). The Examiner indicates that in the preparation of the compositions of Kagerer, the polyisocyanates are reacted with polyols not containing any thiol groups. According to the Examiner, "that step is

sufficient to meet the claims." The Examiner further indicates that a step of adding a thiol reactant to an intermediate polyurethane is not excluded by the present claims. Applicants respectfully disagree.

In order to anticipate a claim under 35 U.S.C. § 102(b), a prior art reference must disclose every limitation of the claim. The claims of the present application require (I) preparing a polyurethane (A) . . . in non-aqueous solution, by reacting . . . the isocyanate groups of polyisocyanates with the isocyanate-reactive groups of an isocyanate-reactive component consisting of at least one compound selected from [compounds exclusively containing isocyanate-reactive groups selected from the group consisting of -OH and -NH groups], (II) adding to the polyurethane solution (A), one or more vinylically unsaturated monomers (B) . . . and subjecting the resultant mixture to free-radical polymerization . . . , (III) optionally neutralizing . . . and (IV) dispersing the hybrid polymer in the aqueous phase . . . (*emphasis added*).

Step (I) of the process of Claim 1 clearly requires that "polyurethane (A)" is prepared by reacting . . . the isocyanate groups of polyisocyanates with the isocyanate-reactive groups of an isocyanate-reactive component consisting of at least one compound selected from [compounds exclusively containing isocyanate-reactive groups selected from the group consisting of -OH and -NH groups]. Step (I) defines the preparation of "polyurethane (A)." In preparing "polyurethane (A)," the claims require that the isocyanate groups of polyisocyanates (A1) may only be reacted with the isocyanate-reactive groups of an isocyanate-reactive component consisting of at least one compound selected from (A2)-(A5), all of which exclusively contain isocyanate-reactive groups selected from the group consisting of -OH and -NH groups. Step (I) contains no open language to allow that the polyisocyanates, at any time during the preparation of "polyurethane (A)," may be reacted with any compound containing thiol groups as the NCO-reactive groups. Thus, in the production of "polyurethane (A)," the isocyanate groups may only be reacted with -OH and -NH groups.

Step (II) of the presently claimed process requires that one or more vinylically unsaturated monomers (B) are added to "polyurethane solution (A)" ("polyurethane solution (A)" is merely "polyurethane (A)" in aqueous solution, and as required by step (I), "polyurethane (A)" does not contain thiol groups), the resultant mixture is subjected to free-radical polymerization, and the hybrid polymer is dispersed. The Examiner contends that it would be possible, presumably in a step between steps (I) and (II), to add thiol groups to the polyurethane. However, if that were the case, the resulting polyurethane would be something other than "polyurethane (A)" which is defined by its preparation in step (I). Such a polyurethane would have no use in the present invention. If "polyurethane (A)" was subsequently modified as suggested by the Examiner, and one were to add the monomers (B) to the thiol-modified polyurethane, the requirement of step (II) would not be satisfied, as the monomers would be added to a polyurethane that did not meet the definition of "polyurethane (A)" as required by step (II). The claims can only be satisfied if the monomers (B) are added to "polyurethane (A)" as defined by step (I). Thus, the present claims do exclude the addition of thiol groups to the polyurethane prior to addition of the monomers.

Furthermore, step (I) further requires that "polyurethane (A)" contains no polymerizable double bonds. So, Applicants believe that the Examiner's hypothetical step of "adding a thiol reactant to the intermediate polyurethane, in order to further grow the polyurethane prior to [step (II)]" would not result in the polyurethane having thiol functionality, given the requirements of step (I).

The Examiner also contends that the claims are anticipated because Kagerer teaches preparing, as an intermediate, a polyurethane without thiol groups. But, the present claims require more than the preparation of a polyurethane without thiol groups. As discussed above, step (II) requires that one or more vinylically unsaturated monomers (B) are added to the "polyurethane solution (A)" (which, as defined by step (I), does not contain thiol groups), the resultant mixture is subjected to free-radical polymerization, and the hybrid polymer is dispersed. However,

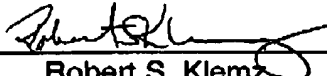
Kagerer does not disclose or suggest any step that meets the requirement of step (II), namely, that one or more vinylically unsaturated monomers (B) are added to "polyurethane (a)" (having no thiol groups), and the resultant mixture is subjected to free-radical polymerization.

Kagerer is very clear that the polyurethanes that are added to the olefinically unsaturated monomer must contain at least one thiol group. See e.g., page 6, paragraphs 0093 and 0094 ("The polyurethanes containing thiol groups are used to prepare the graft copolymers of the invention. For this purpose, the polyurethanes containing thiol groups are grafted in organic solution or in a dispersion with at least one monomer (a)."). The Examiner contends that Kagerer teaches intermediate polyurethanes containing no thiol groups. However, such intermediates are not added to the olefinically unsaturated monomer. Instead, they are further reacted to impart thiol functionality to the polyurethane prior to its addition to the monomer.

Thus, Kagerer does not teach adding a monomer to a thiol-free polyurethane, as required by the present claims. As such, Kagerer does not teach adding to the polyurethane solution (A), one or more vinylically unsaturated monomers (B) . . . and subjecting the resultant mixture to free-radical polymerization . . . , (III) optionally neutralizing . . . and (IV) dispersing the hybrid polymer in the aqueous phase . . . as required by the present claims. As Kagerer does not disclose, teach or suggest all of the elements of the present claims, the claims cannot be anticipated by Kagerer under 35 U.S.C. § 102(b). Therefore, the current claims are deemed to be patentable over Kagerer and the rejection of Claims 1, 3-5 and 12 under 35 U.S.C. § 102(b) should be withdrawn.

In view of the above remarks, reconsideration and allowance of all pending claims is respectfully requested.

Respectfully submitted,

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- 7 -